CLAIMS

1. Non-human, transgenic, mammalian animal for an anti-NGF (NGF: Nerve Growth Factor) antibody.

2. Animal according to claim 1 wherein the anti-NGF antibody blocks the NGF binding to the receptors thereof.

3. Animal according to claim 1 able to express the anti-NGF antibody only in the adulthood.

4. Transgenic animal according to claim 3 able to express the anti-NGF antibody in serum at measurable levels from 50 to 500 ng/ml.

5. Animal according to claim 1 wherein the anti-NGF antibody is a monoclonal anti-NGF αD11 antibody.

6. Animal according to claim 5 wherein the αD11 antibody is a αD11 chimeric antibody.

7. Animal according to claim 6 wherein the chimeric antibody is humanised chimeric antibody.

8. Animal according to claim 1 belonging to murine genus.

9. Animal according to claim 8 belonging to BS6JL strain.

10. Transgenic animal according to claim 1 expressing at least one of the pathologies included in the following group:

- neurodegenerative syndromes
- muscular atrophy/dystrophy
- modification of the lymphocytic sub-populations and cellular death in the spleen.

11. Transgenic animal according to claim 10 wherein the neurodegenerative syndrome exhibits at least one of the anatomical, histological, molecular or phenotypic markers included in the following group:

- dilatation of the cerebral ventricles,
- atrophy of the cerebral cortex and/or complete disappearance of the hippocampus;
- neuronal loss or apoptosis,
- deposition in CNS of plaques of β-amyloid protein,

- hyperphosphorylation of the tau protein,

- neurofibrillar pathology.

12. Animal according to claim 11 wherein at least one of anatomical or histological markers is included in the following group:

- dilatation of the cerebral ventricles

- atrophy of the cerebral cortex

- neuronal loss

are present ad a level higher than that of the animals used as control.

13. Transgenic animal according to claim 10 wherein the muscular atrophy/dystrophy is associated at muscular level to at least one of the anatomical, histological, molecular or phenotypic markers included in the following group:

- deposition of plaques of β-amyloid protein,

- hyperphosphorylation of the tau protein,

- infiltration of inflammatory cells.

14. Transgenic animal according to claim 13 wherein the occurrence of the tau hyperphosphorylation and/or amyloid deposition in the back or lower limb skeletal muscles is premature compared to the occurrence of neurological markers.

15. Monitoring method of the occurrence of the tau hyperphosphorylation and/or amyloid deposition in the back or lower limb skeletal muscles of a subject for an early diagnosis of neurodegenerative diseases.

16. Cells derived from the transgenic animal according to claim 1.

17. Use of the cells according to claim 16 for the selection of molecule effective in neurodegenerative pathologies.

18. Use of the cells according to claim 16 for the selection of molecules active in muscular diseases.

19. Method for the preparation of a non-human transgenic according to claim 1 comprising essentially the steps of:

a) preparation of a non-human animal parent line transgenic for the light chain of the monoclonal anti-NGF antibody and a non-human animal parent line transgenic for the heavy chain of the anti-NGF antibody,

b) cross-breeding of the two transgenic parent animal lines

c) selection of the brood.

20. Method according to claim 19 wherein the step a) essentially comprises the introduction of the transcription unit containing the transgene encoding for the light chain of the anti-NGF antibody and the transcription unit containing the transgene encoding for the heavy chain of the anti-NGF antibody, separately, in different fecundated oocytes and the selection of parents transgenic for either of the transgenes.

21. Use of the transgenic animal according to claim 1 as a model for the study of the pathologies related to an NGF deficit.

22. Use of the transgenic animal according to claim 21 wherein such a deficit results from the presence of anti-NGF auto-antibodies.

23. Use of the transgenic animal according to claim 1 as a model for the study of neurodegenerative syndromes.

24. Use of the transgenic animal according claim 23 wherein the neurodegenerative syndrome is the Alzheimer's disease.

25. Use of the transgenic animal according to claim 1 as a model for the study of the pathologies of the muscular system.

26. Use of the transgenic animal according to claim 1 for the selection of compounds effective in the treatment of pathologies included in the following group:

- neurodegenerative syndromes
- muscular atrophy/dystrophy.

27. Use of the transgenic animal according to claim 26 wherein the neurodegenerative syndrome is the Alzheimer's disease.

28. Use of the NGF (Nerve Growth Factor) or peptide fragments thereof for the preparation of pharmaceutical compositions for the treatment of muscular pathologies.

29. Use of the NGF according to claim 28 wherein the NGF is provided as one of the following forms:

- natural NGF
- recombinant NGF
- synthetic NGF
- NGF secreted by implant of genetically engineered cells
- NGF coded by viral vectors.

30. Use of the NGF according to claim 29 wherein said treatment is provided by local administration.

31. Pharmaceutical compositions including NGF (Nerve Growth Factor) for the therapy of the muscular pathologies.